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DURHAM, N.H. – University of New Hampshire and University of South Florida researchers have published a new book that provides the first comprehensive look at seaweeds in the Northwest Atlantic in more than 60 years.

NH AGRICULTURAL EXPERIMENT STATION RESEARCHER ARTHUR MATHIESON, PROFESSOR OF MARINE PLANT BIOLOGY AT UNH, HAS CO-AUTHORED *SEAWEEDS OF THE NORTHWEST ATLANTIC*, WHICH PROVIDES THE FIRST COMPREHENSIVE LOOK AT SEAWEEDS IN THE NORTHWEST ATLANTIC IN MORE THAN 60 YEARS

"Seaweeds of the Northwest Atlantic" by NH Agricultural Experiment Station (http://colsa.unh.edu/nhaes/) researcher Arthur Mathieson, professor of marine plant biology at UNH, and Clinton Dawes, university research professor emeritus at the University of South Florida, documents more than 500 types of seaweed and represents more than 40 years of research on Northwest Atlantic seaweeds.

"Many seaweeds are economically important as sources of food such as sushi and dulse, and phycocolloids such as agar, alginates, and carrageenans. In addition, they serve a functional role in diverse marine ecosystem as habitats and food," Mathieson said.

The global commercial seaweed market is expected to reach $22.1 billion by 2024, according to Grand View Research, Inc. The growing demand for food products derived from seaweeds is expected to augment the global commercial seaweed market growth. In addition, the increasing application of seaweeds in the medical and healthcare, animal feed, and fertilizers sector also is projected to boost the future market growth as well as industrial acceptance of seaweed extracts such as alginate, agar, and carrageenan. The book describes the seaweeds of the Northwest Atlantic ranging from Ellesmere Island in Canada, to Maryland.

A project that took seven years, the book includes detailed description and illustrations of more than 500 seaweed taxa, including about 2,000 line drawings as well as description of each taxon's taxonomy, ecology, and economic value. The authors summarized changes in species names, and documented more than 30 introduced species based upon long-term field and laboratory studies. The 30 introduced species have primarily resulted from ship traffic from Asia and Europe, enhanced aquaculture, and climate variability.

“The publication of this comprehensive flora will be of immense value not only to academics but to workers in marine conservation and related fields, in tracking possible invasions of seaweeds, and in determining if ranges of some species are changing over recent decades, possibly due to global warming. Mathieson and Dawes have done a masterful job,” said Michael Wynne, coauthor of “Introduction to the Algae: Structure and Reproduction.”

The new algal flora is useful in both applied and basic research. For example, several companies that monitor impacts of coastal nuclear power plants will use the new flora to monitor changes in macroalgae populations related to reactor cooling water. Mathieson also is tracking changes in macroalgae populations near oyster beds in Little Bay, part of the Great Bay Estuary.

Many of Mathieson’s preserved seaweed samples that helped inform the book can be viewed at the Albion Hodgdon Herbarium (http://www.unh.edu/herbarium/), which is located in the Spaulding Life Sciences Building on campus and has one of the largest collections (more than 80,000 specimens) in New England.

The material summarized in the Northwest Atlantic volume is based upon work supported by the NH Agricultural Experiment Station, through joint funding of the National Institute of Food and Agriculture, U.S. Department of Agriculture, under award number 1007230, and the state of New Hampshire. Additional funding was provided by NH Sea Grant (https://seagrant.unh.edu/) and the Hubbard Research Marine Endowment of the School of Marine Science and Ocean Engineering (http://marine.unh.edu/).

Founded in 1887, the NH Agricultural Experiment Station (http://colsa.unh.edu/nhaes) at the UNH College of Life Sciences and Agriculture (http://www.colsa.unh.edu/aes) is UNH’s original research center and an elemental component of New Hampshire's land-grant university heritage and mission.

The University of New Hampshire is a flagship research university that inspires innovation and transforms lives in our state, nation and world. More than 16,000 students from all 50 states and 71 countries engage with an award-winning faculty in top ranked programs in business, engineering, law, health and human services, liberal arts and the sciences across more than 200 programs of study. UNH’s research portfolio includes partnerships with NASA, NOAA, NSF and NIH, receiving more than $100 million in competitive external funding every year to further explore and define the frontiers of land, sea and space.

Editor's Notes:

PHOTO AVAILABLE FOR DOWNLOAD

https://colsa.unh.edu/nhaes/sites/colsa.unh.edu.nhaes/files/media/images/mathieson.jpeg
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NH Agricultural Experiment Station researcher Arthur Mathieson, professor of marine plant biology at UNH, has co-authored *Seaweeds of the Northwest Atlantic*, which provides the first comprehensive look at seaweeds in the Northwest Atlantic in more than 60 years.

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